Property of the Library of the North Carolina College for Women 1923

Volume VI Number 2

The HIGH SCHOOL JOURNAL

TABLE OF CONTENTS

THREE TYPES OF JUNIOR HIGH SCHOOLS
A DIALECTIC PRINCIPLE IN THE HISTORY OF EDUCATION
PART TIME COOPERATIVE TRAINING
MUSIC AS A SOCIALIZING INFLUENCE

	PAGE
THREE TYPES OF JUNIOR HIGH SCHOOLS — C. H. Trowbridge	35
A DIALECTIC PRINCIPLE IN THE HISTORY OF EDUCATION — J. F. Dashiell	38
THE DEPENDENCE OF KNOWLEDGE UPON SENSATION AND PERCEPTION — M. E. Clark	40
AN EXPERIMENT IN LEARNING, AND SOME SUGGESTIONS — J. F. Dashiell	42
THE ADMINISTRATION OF PART-TIME COOPERATIVE TRAINING — Maude F. Rogers	43
MUSIC AS A SOCIALIZING INFLUENCE — W. P. Twaddell	47
EDITORIAL COMMENT	48
THE ENGLISH COLUMN	49
THE MATHEMATICS COLUMN	50
THE SPANISH COLUMN	51
THE EYES OF A CHILD	5*
BOOK NOTES AND REVIEWS	54

February, 1923

Published by the University of North Carolina Press for the School of Education of the University of North Carolina, Chapel Hill, N. C. Issued Eight Times a Year from October to May

Subscription Price $1.50 a Year

Entered as Second-Class Matter, March 1, 1918, at the Postoffice at Chapel Hill, North Carolina Under the Act of March 3, 1879

Five new books for French classes

HISTOIRES ET JEUX, by Jessie F. Barnes, Instructor in French, Francis W. Parker School, Chicago.

This is an interesting collection of stories, songs, and games for first-year French pupils. Many of the stories can be dramatized. The life and customs of the French people are interestingly portrayed in this new reader. It is for students who have already covered the elements of French grammar.

LE BEAU PAYS DE FRANCE, by Josette Eugénie Spink, Teacher of French in the Elementary School, The University of Chicago.

BAZIN'S UNE TACHE D'ENCRE, edited by Noëlia Dubrule, Teacher of French, Lawrence (Mass.) High School.

Bazin's story of a French law-student's life will particularly interest American students. It should be read in the second or third year of French.

ERCKMAN-CHATRIAN'S HISTOIRE D'UN CONSCRIT DE 1813, edited by Madison Stathers, Professor of Romance Languages, West Virginia University.

A desirable feature of this new edition is that it includes the complete text, taken from the revised edition, of the well-known historical romance. It should be read in the second or third year of French.

STORIES BY CONTEMPORARY FRENCH NOVELISTS (In Press). Edited by Marion Edna Bowler, Assistant Professor of Romance Languages, Simmons College.

Third or fourth-year French students will enjoy these short stories by representative French writers of today. Apart from their literary excellence and interesting themes, they are invaluable for their aid in language work.

GINN AND COMPANY

BOSTON NEW YORK CHICAGO LONDON ATLANTA DALLAS COLUMBUS SAN FRANCISCO

Represented by P. E. SEAGLE, Box 311, Raleigh, N. C.

THE HIGH SCHOOL JOURNAL

Volume VI | CHAPEL HILL, N. C., FEBRUARY, 1923 | Number 2

THREE TYPES OF JUNIOR HIGH SCHOOLS

Part I. Housed With an Elementary School

By C. H. TROWBRIDGE
Brevard Institute, Brevard, N. C.

THE FOLLOWING survey of a Junior High School was made in 1921 in a mid-western city[1] of about 20,000 population, and shows something of what can be done under adverse financial conditions. At that time personal living cost had begun to fall, but municipal difficulties were at their height. Salaries and most operating expenses were at the peak, but taxation had not been correspondingly increased.

The city studied is a manufacturing and railroad center, and was therefore much interested in the industrial side of education. At the same time, there are many families of wealth and social position, and the fact that practically all of the children attend the public schools makes the high school problem a difficult one.

The system consists of one Senior High School, three Junior High Schools, and seven Elementary Schools. The Junior High Schools are all located in separate sections of buildings also used by elementary schools. This practically eliminates the gap between the elementary and the high schools, so far as these three elementary schools are concerned. It enables these principals and, to some extent, their teachers, to know the pupils before they appear in the junior high schools.

The Superintendent of the City Schools[2] states that this arrangement serves the further purpose of "taking the ninth grade to more than one location in the city to bring the work of that grade close to the homes of the pupils and thereby bring about a unification of the junior high school work in each part of the city, where it can make its own appeal."

Purpose of this Paper

This paper is concerned chiefly with the two vital and difficult problems of suitable teacher supply and suitable modifications of programs and of courses of study to meet local needs. Methods of solving other junior high school problems will be mentioned, but these two were particularly studied.

Teacher Supply

The selection of junior high school teachers is based on (1) special success in dealing with pupils of the adolescent age as shown by previous experience as teachers, and (2) not less than two years of student work of college grade pursued under conditions where the professional phase of teaching was dominant. First, therefore, teachers were chosen from the city system itself, selecting those who came nearest to the standard. The list was then supplemented from outside, looking for the scholarship requirement, and also for the "vision of the real junior high school problems." Few young graduates, even of four-year colleges, are found to be ready for this peculiar task. "The best type of teacher for these schools is the teacher who has already shown marked fitness for dealing with adolescent pupils, and who also has the college training or will get it as rapidly as circumstances permit."[3]

Teachers' Salaries

Teachers of the elementary schools and the junior high schools were in 1921 divided into five groups on the basis of training and teaching experience, and the salary schedules were determined by this classification. The requirements for each group were as follows:

Group E. Thirty hours college credit; experience less than one year.

Group D. Thirty hours college credit; and one year's experience.

Group C. Sixty hours college credit; and one year's experience.

Group B. Sixty hours college credit with two years' experience; or ninety hours college credit and one year's experience.

Group A. Sixty hours' college credit, and four years' experience; or ninety hours' college credit, and three years' experience; or 120 hours' college credit, and one year's experience.

[1] Hannibal, Mo.

[2] School Review, 25: p. 653.

In all groups, successful experience of not less than sixteen months in rural schools was counted as the equivalent of one-half the time in city schools. All college credits must include special courses in education. For teachers already employed, experience for from one to ten years could be counted in place of certain college credits. All new junior high school teachers must have at least four years of college training.

Salaries in 1920-1921 ranged from $1,000.00 for Group E. to $1,170.00 for Group A.

Promotion of Teachers

Teachers "may not be advanced in salary if the Principal's semi-annual report on the last year's work done and the Superintendent's estimate leave room for doubt as to her strength in discipline, teaching, and professional spirit." These ratings, however, are not the sole criteria. The principal's reports referred to deal with four points: (1) Discipline; (2) Teaching power; (3) Accuracy, Neatness, and Promptness of School Work; (4) Professional Spirit.[4]

Staff of 1920-1921

A detailed study of the faculty in one of the junior high schools supplied data for the following tables, which explain themselves:

TABLE A. Average Number of Years Study

In junior high school	0.0
In four year high school	3.6
In normal school	1.2
In college or university	1.5
In graduate study	0.1

TABLE B. Average Number Hours Professional Study

In summer school	25.5
In college or university	9.5
In graduate school	2.5

TABLE C. Average Number of Years Experience Teaching

In model school	0.6
In rural schools	0.7
In elementary schools, grades 1-6	5.6
In elementary schools, grades 7-8	0.3
In junior high schools	1.3
In high schools without junior features	0.6
In schools not included above	0.1

In the effort to get a side light on the advantages of these particular schools, the following advantages frequently found in junior high schools were suggested to the teachers, with the request that they each rank the five items which they considered most valuable. The items are ranked below in the order determined by this composite method of ranking.

1. Aiding student to find his own abilities.
2. Departmental teaching (Mathematics classes to mathematics teachers, and so on).
3. Better prepared teachers.
4. Attention to individual differences in ability and interests.
5. Adjustment of school work to community needs.
6. Supervised study.
7. Better holding power (Increase in number entering 10th grade).
8. Greater social activities (Athletics, music, assemblies, literary programs, and so on).
9. Vocational guidance.
10. Promotion by subject rather than by grade.
11. Broader curriculum (more electives and better subject matter).
12. Better organization for administrative purposes.

Sixty percent of the teachers answering the questionnaire prefer teaching in a junior high school. Forty percent prefer the four-year high school. Thirty-three percent claim some special preparation for distinctively junior high school work, and eighty-three percent had had special preparation for the departments in which they were working.

Modification of Program

The program of studies for the junior high schools had been worked out in 1918, and the disorganized condition of educational progress had prevented the advance which otherwise would have occurred. The program is typical, however, of a good beginning under the difficult conditions which are, unfortunately, very common when the reorganization of a school along junior high school lines is attempted. It may be a stimulus to other cities to undertake the advance even when ideal conditions cannot be reached at a bound.

A summary of the program shows that four groups of studies ran through the course of the three years.

B Seventh—Required: Mathematics, geography, history, manual training or domestic science.

A Seventh—Required: English, mathematics, geography, history, manual training or domestic science.

B Eighth—Required: English, mathematics, history, physiology, manual training or domestic science.

A Eighth—Required: English, mathematics, government, physiology. Electives: Latin, drawing, music, manual training, home economics.

B Ninth and A Ninth—Required: English, mathematics, and manual training or domestic science. Elective: Either Latin or general science.

There was a differentiation on the basis of sex interests in all grades. No other electives were offered in the seventh grade, and all students carried the same studies except that boys had manual training and girls domestic science. In the eighth grade this element of differentiation continued, and in the second half of the year, Latin is offered as an elective. At the beginning of the Ninth grade, all pupils were divided between

[4] School Review 26, p. 657.
[4] Fourteenth Yearbook, pp. 17-26.

the Classical and the Scientific curricula. The requirements for these two courses were exactly similar except that a choice must be made between Latin and general science. Algebra was elective in grade Nine, in the sense that it may be omitted by pupils who elect both Latin and general science.

Modification of Courses of Study

The methods of exploring student interests and capabilities, vitalizing instruction and reorganizing subject matter, can well be discussed by describing two recitations which were observed.

In a review lesson on machines in the general science class, the discussion was free and the interest keen. Practically every pupil took part voluntarily. The instructor seemed careful to guide the discussion to matters of common knowledge to the pupils. His illustrations were largely in the field of transportation, including chiefly automobiles and railroads. He showed a comprehensive knowledge of both fields, and was careful to clear up each question raised before it was dropped. The recitation depended on the student's knowledge of the subject matter, but was by no means limited to topics previously discussed in class. It was a type of a reorganized and vital recitation, and it was sure to furnish to the teacher some information as to the interests and capabilities of each of his students.

The B Eighth grade was reviewing the first term's work in Stone's Junior High School Mathematics. Among the headings of its chapters are such topics as "Short Cuts with the Fundamental Arithmetical Processes," "Use of Mathematical Formulae," "Use of the Equation," "Distance by Scale," "Height by Shadows," "Use of Tangents," "Business Terms and Problems," and "Methods of Investing Money." This shows the eminently practical nature of the course and also its total liberation from tradition. Every topic is something frequently valuable in everyday life, though it is almost startling to find algebra, geometry, and trigonometry with arithmetic in an eighth grade book. The pupils were being drilled very successfully on substitution in formulae, giving them first simple illustrative problems, and following it with more and more difficult problems. They did very well with it, but the relief when they later took up numerical work was very evident. The preference of the adolescent for the concrete had not been reversed by the reorganization of the subject matter of the text.

It was evidently the design of the administration to vitalize the courses of study throughout all departments of the junior high schools. The teaching of composition and the teaching of literature are separated as much as possible "to relieve the study of literature of much of the mechanical work that is connected with composition." An effort is made to assign the two classes to different teachers. Lists of reading for study and also for home reading are available to the student. In geography, the commercial side is stressed. Special studies are made of some one local industry and of the state supplement of the text. History throughout is made "to live because it will interpret the present." Frequently attention is called to the connection between historical facts and current events. All students devote at least one period a week "to the cultivation of patriotism by specific examples from present day life and from history rather than by mere general statements." The manual training and domestic art shops are well equipped with individual and general tools. Ninth grade domestic science is a course in sewing and dressmaking, four hours per week.

Other Junior High Schools Characteristics

At the time of the survey, little was being done along social lines. A basketball league had been formed among the three junior high schools, with a schedule calling for one league game each week. A Parent-Teacher Association was in intermittent operation. Both organizations have been found good, and their usefulness may later be extended under more favorable conditions.

The degree of differentiation allowed provided to some extent for individual differences. Further provision was made in the division of the mathematics class into sections, on the basis of previous records in arithmetic. Those who win a place in the more able section study mathematics in the form of general mathematics rather than as arithmetic, algebra, geometry, and trigonometry as isolated studies, though all these branches of mathematics are brought into the course in their own proper time. This grouping was not then carried into other departments. Attention to individual differences was also given in the supervised study period, for all students were required to be in an assembly room under the supervision of a teacher when they were not reciting.

(Part II of this article will appear in our March number and Part III in our April number.—Editor.)

COLLEGE TO RADIO REGULAR COURSES

The Marietta College faculty has decided to make a test of broadcasting college education. A set of continuous lectures will be broadcasted, each professor handling his own course, and students will be granted regular credit provided they cover assigned reading and furnish satisfactory reports, pass examinations and, incidentally, pay certain fees.—Cross Nation.

A DIALECTIC PRINCIPLE IN THE HISTORY OF EDUCATION

By J. F. DASHIELL
Professor of Psychology, The University of North Carolina

EDUCATION, LIKE POLITICS, religion, economics, drama, and all human enterprises, when studied in historical evolution strikes the student as a bewildering maze of details. And like the political economy of an earlier day, the history of education may perhaps aptly have been called the "dismal study"—so dismal that we have appearing a half-humorous book with the title, "A Joysome History of Education." But there is no more reason for dryness in reviewing the development of educational theory than in the history of philosophy (the two are interpenetrating!), nor in the development of educational practices than in the history of political or other social institutions. One of the needs, doubtless, is the recognition that education in its historical development is not merely historic records—it is human nature; and whatever fundamentally and universally human tendencies are to be discerned in the evolution serve to light it up.

I wish to suggest here only one fundamental principle that has become increasingly convincing in considering the ways men act and feel and think (which latter they do occasionally!), especially when viewed in historical perspective. It does, I feel, assist in bringing to light analogies between what were at first sight vastly different educational systems and also in making more connected and understandable the sequence of systems.

Let us contrast briefly the education of three different ancient states. In Sparta, where the great aim of life was to be a good soldier and where bravery, loyalty, self-control, and endurance were the ideals, the means taken to realize these were definite. As an infant one was early taught self-reliance by receiving no coddling; as a youth he was housed in military barracks, inured to a variety of physical hardships, hardened by exercise, and on the intellectual side taught only the state's laws and some military chants; as a young man he might be further hardened by scourgings; and after thirty, although he married and became a full citizen, yet he was permitted little of the sentimentalizing family life but had to eat at the community table with men and boys. What system of training could have been better devised to turn the plastic human individual into just the sort of adult the Spartans wanted, a soldier—not a docile automatism, however, as a soldier is so often forced to be to-day, but able to show independence and to take command if need arose. What I wish to stress is that these people set up a definite (a too definite!) educational ideal, and knew exactly what to do to attain it. Again, this ideal was a useful and practical one, the one upon which the state as state was founded, and had to do with life in its immediate aspects. And what is the historical consequence? The ideal of training youth for definite, immediately practical needs and duties and nothing else *did* that and nothing else. Of Sparta nothing remains to-day outside the histories.

Contrast with this the neighboring Athenian civilization and its educational program. The young child heard his nursery-rhymes and his gods-and-heroes stories. Later in his schools he cultivated ease and adroitness and grace in physique, not hardness and endurance; he studied poems, songs, stories, not with the singleness of purpose of military preparation but with interest in rhythm and harmony, in geography and history, in mythology and art. The social and political life he found when he was admitted to citizenship was full of examples and ideals of intellectual, moral, and esthetic values, and was stimulating to the many different sides of his nature. And these interests were fostered not for some definite usefulness but for their own sake. There was a freedom to satisfy the more elaborate and the more refined wants of man. The historic contributions of such a civilization were more or less inevitable. Nowhere can be found as high a development of art in its various forms nor as clear philosophic and ethical thinking as in our heritage from the ancient Athenians.

Next, consider the Chinese education. "Of all the methods for the good ordering of men there is none more urgent than the use of ceremonies." With this went a pronounced emphasis upon book learning in its most formal aspect: text-books and classics to be committed to memory with minutest attention to form rather than content—these written in a polite language no more related to the speech of the every-day life than is Greek to that of the North Carolina life of to-day. The writing, too, was merely the attempt to imitate the great classics in all formal details. What has such an education contributed to the world? No more than did the Spartan, so far as its own contributions are concerned: the people transmitted not theirs but their ancestors' works.

A comparison of these so different types of education—the *practical* Spartan, the *liberal* Athenian, and the *formal* Chinese—is suggestive. The three examples we have taken are contemporaneous with each other; but it is easier to understand them as cross-sections of cutural development but at different stages.

1. In the life of any folk the very first interests are, of course, those of immediate and pressing material needs. A training in the fundamental activities of everyday life, of the primary uses and usefulnesses, is to be expected where man is still close to nature and has not yet built up much control of his environment. It is not necessarily a life dominated by warlike interests, as was Sparta's, but includes forms of hunting and fishing, of hut construction, of food and cloth making. But let the folk acquire an abundant control of life necessities; and above all let there appear fertile minds, minds that rest not with the perfection of the usual bread-and-butter duties—and the spark of interest in things for other than their utilitarian purposes that we may discern in the primitive's love for colors and sounds and folk-lore is blown into a flame of desire for more beautiful, more curiosity-satisfying, more curiosity-whetting things.

2. Practical interests develop into theoretical, then, and with this come new centers of enthusiasm, new breadth of vision. The desire for more than the useful, for all the variety of things that please the human in his many-sidedness, becomes more and more recognized. Esthetic, intellectual, and ethical ideals grow more definite, and their sharing and comparing by different individuals leads to the development of standards and to judging thereby. The Beautiful, the True, and the Good are now explicit ideals, consciously sought. But such a culture to continue at this free-minded and creative level requires a solid economic foundation and a continuous supply of fertile minds. Let the former crumble and men are again forced to struggle for the primary necessities. Let the latter cease and we witness a new phenomenon.

3. With the disappearance of fertile minds, passionately creative, what were previously set up as approximate and helpful standards for the directing and refining of taste are now raised to the position of absolute, once-for-all authorities from which no deviation is desirable nor indeed permissable. The fluid working ideas of the creative thinkers become now congealed, hardened, frozen, and no one dares challenge or criticize them. In the schools we pass from the stimulation of thinking to its enslavement by ritual and form. Teachers pay more attention to the letter that killeth than to the spirit that maketh alive. The forms of a previous Golden Age are emphasized in a mechanical way, and, all too often, are used as a class badge. In some cases, as the Chinese, such culture and education may persist for centuries, but in most it crumbles before the touchstone of practical life and real needs. With this the culture of the people is started upon another turn of the cycle; practical needs coming first, a liberal enlargement of interests and desires often following, and the formal embalming of the latter being the apparently inevitable ultimate.

The history of education affords many examples of this dialectic procession. Roman education with its early emphasis upon personal duty in its socio-political forms, changes upon the influx of Hellenic influences and expansion of the geographical horizon into an Augustan Age, only to solidify into an imitative caste culture of the later Imperial days, and this finally to fall away in decay. Or, take the educational development of the later Middle Ages or early modern era: chivalric ideals stimulated training only in swordsmanship and military discipline, and courtliness to the ladies was offset by cruelty to serfs; but the stabilizing of governments and influx of an ancient culture led to the rich renaissance of the early humanists; only to become petrified in the worship of the letter and the establishing of the "humanities" as forms to be slavishly studied and followed.

It should be pointed out that the same dialectic progression holds for particular pieces or aspects of education, and that we may witness side by side different educational practices and theories in their practical, their cultural, and their formal stages. Consider the high school curriculum to-day! Side by side with typewriting and agriculture we find history and literature, and again Latin and mathematics. The first named studies are clearly put there for their usefulness, their cash value in the struggle for bread. The second two are presumably liberalizing, although college entrance standards would seem to belie this with their emphasis upon the mere facts of history and the details of a poem. The last two may not altogether fairly be called merely formal, but the spectacle of a negro serving girl studying Latin in her school hours is convincing on this point.

We may take Latin and Greek languages and literatures alone, and trace the same progression through the ancient and early mediæval times when those languages were the useful, the vernacular, through the later mediæval and early modern when they were the necessary open sesames to the accumulated cultural tradition, up to these later modern days when they persist more by inertia and custom than by any real

expectation of either practical or liberalizing benefits.

What is true in the evolution of educational ideals and practices is as true of other phases of human culture. Consider a religion. Starting with deep-felt needs of personal and human shortcomings against the awfulness of the Universe, religion flowers into a rich variety of impulses and ideals artistic and intellectual as well as ethical, but the objects of devotion are in danger of becoming hardened into highly fixed entities and attributes and the forms of worship formalized into inflexible rituals. Take the field of music. The first songs spring from the soil as a natural ebullition of the human spirit; with an accumulation of these and the advent of certain types of creative genius these folk songs become refined, re-arranged, elaborated to the highest degree; and later the established forms of musical experience become slavishly followed by many, so that to them a music having a different historic development, as Russian or Chinese, sounds barbarous and ugly. Or, take political history. Men meet together to frame a constitution to serve as a basis for binding together into a union dangerously divergent elements. It is to serve a practical need. But the work of interpreting, modifying, and freely applying this man-made work to fit the evolving conditions of rapidly changing life in a modern state, tends to give place to a blind acceptance of it as oracular and final.

These three stages, then, the practical, the liberal, and the formal, we may find exhibited not only in the various streams that make up the history of education, but in the evolution of human thinking and feeling along all lines.

THE DEPENDENCE OF KNOWLEDGE UPON SENSATION AND PERCEPTION

By M. E. CLARK
Cecilton, Md.

SUCH EXPRESSIONS as "Mind must conquer matter," and "'Tis the mind that makes the body rich," etc., have always been popular whereas in reality we cannot separate mind and matter. We are dependent upon both. As the hero in a once upon a time "best-seller" said to the heroine, "You'll jolly well find that you have to consider your physical being."

Upon our sensations depends our knowledge, or, as the psychologists say, sensations are the "raw material" of knowledge. We scarcely realize to what degree we are thus dependent. Royce[1] compares the sense organs to the keys and stops of an organ; the higher mental life, to the music produced. He also gives the following example, which appeals to me as very good,—"If an ascetic uses fasting or vigil as a means to support his meditation, he is quite as definitely dependent upon the excitement of certain sense organs as if he ate olives and played the violin." Yet a sensation is hard to define, being, as it is, an elemental experience. Sensations come to us from eye, ear, nose, mouth, skin, muscles, and internal organs. They all have intensity, duration, clearness. Yet it is the *intense* feelings that make most impression,—our sensation of *intense* heat as opposed to a comfortable temperature; *intense* hatred as opposed to mild dislike. Properly speaking, these are not sensations, but perceptions, as they include the element of experience. A *pure* sensation would be possible only as a *first* experience. As James[2] says, "Sensation gives us 'acquaintance with objects,' whereas perception gives us 'knowledge about them'." Hence the greater our perceptive ability, the greater our knowledge. If we could picture ourselves the first time we consciously saw an apple, we should notice it in one aspect, possibly as just some new toy. As our sensation developed into perception, we should notice the different varieties that grow in our orchard, sizes, shapes, colors, tastes, etc. This perception becomes almost a habit, because we acquire an habitual way of looking at objects. But we are always conscious of perception, while habit is almost entirely unconscious. Perception, then, by using past experiences, involves seeing new objects in old—new phases of the same experience. The second apple would have the qualities of the first *plus* our new knowledge, whether of color, of shape, of taste, etc.

Colvin and Bagley[3] classify the sensations as visual; auditory; taste or gustatory; olfactory; dermal; kinæsthetic; and organic. Of these the visual, auditory, kinæsthetic and organic are most important for school purposes. Defects of sight and hearing are very common among school children, and teachers should be on the look-out for them. Simple tests will serve. The chapter on light in the physics text is most interesting to pupils. In performing experiments one year,

[1] Royce, *Outlines of Psychology*.

[2] James, *Briefer Course*.

[3] *Human Behavior*.

we found one boy color blind, another near-sighted. One girl had her eyes tested afterwards, and upon getting her glasses, found that she had, as she expressed it, almost to learn over again to walk! The lighting of the school-room is often faulty. The teacher should try to remedy this condition by changing the blinds, seating arrangements, etc.

Many pupils, too, are affected by slight deafness. If a child is habitually inattentive, test his hearing. I find that much of the difficulty in the class-room is caused by bodily defects. In some cases, marked improvement has been noticed since we have had the "Health Crusade," and inspection by the Red Cross and Public Health League doctors. However, in a recent examination of twenty girls, seventeen were found to be defective in eyes, ears, or teeth. I recall the case of a child who sat rather far back in the room, and rarely answered a question, or entered into discussion. Upon consulting with her parents, I discovered that she had always been slightly deaf, and apparently nothing could be done for her. I placed her in the front of the room, and her interest was greater at once.

Without kinæsthetic sensations, accurate movement would be impossible, as our ability to make our behavior more efficient is largely due to these. Mrs. Mallory (Miss Bjurstedt), the tennis champion, among other points to be observed in acquiring skill in tennis, gives first of all, practice; then accuracy in placement; accuracy of service; conservation of energy; as much speed as is consistent with energy. We note how the idea of accuracy is emphasized—the proper use of the kinæsthetic sensations.

The organic sensations, such as hunger and thirst, play an important part in our emotional experiences. The ill-fed, poorly-nourished child cannot learn so well as its more fortunate mates. A nourishing hot lunch, prepared at school, and costing a minimum, is a great help. At any rate, before we misunderstand a child, and censure it too severely, we should try to learn its home conditions, and, if possible, do something to improve them. Perhaps the child who is caugh stealing from lunch boxes is really hungry. If such is the case, can any arrangement be made to find him work out of school hours? Intelligent interest in such matters and definite action based thereupon alone can remedy such difficulties.

Our sensations are much the same but our reactions, and consequently our perceptions vary. After adolescence, our perceptual development is greatly conditioned by the profession or business which we have adopted. The farmer, the teacher, the musician, the merchant have different points of view. What one perceives as a luxury, another will regard as merely comfort. One summer in the dormitory, a girl from Fifth Avenue, preparing for Wellesley, sat at my table. She had the guest room, which is the best in the hall. school teachers, her room represented *luxury*, and the rates were high!

The knowledge of children is often very limited, their prejudice very great;[4] we must consider these facts as well as their point of view, and aim not to talk over their heads. This really means apperception, interpreting our present experience in terms of our past. In model lessons given by teaching specialists, it is instructive to note how they adapt their language to the understanding of the children; how, in a first lesson, they will find out cleverly what the children know of the subject, in the effort to connect the work with their experience.

If we are to train the powers of perception, we must train the conduct of the person who is to learn how to perceive.[5] Nobody sees more than his activities have prepared him to see. The training of perception is as much a practical training as is the learning of a trade. I have a small cousin whose mother instructs her every day to observe all which she sees or hears, and report on her return. Sad to relate, it is chiefly gossip that the mother wants, but I am not so sure that this is not good training for the child, as thereby she becomes alert, and observant of many things which otherwise she would scarcely notice; in other words, we "learn by doing."

It is because he has played music that the musician so well perceives music. It is because I have sewed that I know a good piece of sewing. Experience has led me to recognize a good recitation. But because in my own school-life my perceptions were not trained; because my "field of trial and error" was not limited by my teachers; because I was left to my own devices in the matter of study, so long as I memorized the text;—for these reasons, I have experienced many difficulties which I am trying to avoid for my own pupils. What a vast field for effort lies before the teacher who realizes how dependent is knowledge upon sensation and perception; and how rich his reward in the results of his teaching!

[4] Colvin and Bagley, *Human Behavior*.
[5] Royce, *Outlines of Psychology*.

AN EXPERIMENT IN LEARNING, AND SOME SUGGESTIONS

By J. F. DASHIELL
Professor of Psychology, University of North Carolina

AT ONE OF THE RECENT summer sessions at the University of North Carolina a class of thirty in educational psychology undertook a coöperative experiment in training their capacity for rapid adding. The instructor furnished printed blanks on which were shown a series of "examples," each in the form of ten two-place numbers arranged vertically. The blanks were distributed face down, were turned over by the students at a signal agreed upon, and were added as rapidly as possible for exactly five minutes, the instructor announcing the end of the time period. This was done at the beginning of the class period, the bulk of the hour being taken up with the usual class work, and it was repeated for a total of nineteen successive class periods, with new examples used each day. It was thus only a "side experiment."

But the results were interesting and significant. Each individual kept record of his score for each day; and the average for the whole class was shown just before the next day's trial by a charted curve, in which a rise meant a class improvement for the indicated day and a fall meant a loss. Everyone, then, knew every day how he himself and how the class was progressing. The students put themselves into the work conscientiously, even enthusiastically, everyone trying each day to add as many columns as possible, attempting to better the individual and group records of the previous day. After each trial the instructor had the papers scored for total number of columns added and for number of errors made. These were then averaged for the class of thirty members. The scores found are shown in the following table.

DAY	COLUMNS ADDED	ERRORS
1	20.6	2.0
2	23.2	2.5
3	24.5	2.0
4	24.8	2.5
5	26.8	2.6
6	26.7	1.7
7	28.0	2.2
8	28.1	2.2
9	27.4	2.5
10	28.9	2.3
11	28.7	2.2
12	30.2	2.0
13	29.2	2.9
14	30.1	2.9
15	31.4	2.3
16	31.2	2.0
17	31.2	2.0
18	29.8	2.7
19	32.0	2.6

A moment's inspection of the table brings out one fact clearly, that the class showed definite and practically constant improvement throughout the whole series; the only definite lapses being at trials 9, 13, and 18, and these not considerable. The improvement was, moreover, not only in speed but also in accuracy, for with the large increase in number of columns done there was hardly an increase in number of errors, hence a lower ratio of errors. The first five trials average .097 errors per column, the last five trials, .074 errors. As is usual in conscientious learning in any field, practice makes for both increased speed and increased accuracy.

Consider again the column of total additions done per individual. On the first day it was 20.6, on the last, 32.0, an improvement of 64 per cent. Since the class put in only 5 minutes per day for each of the 19 days, we see that with a total expenditure of only 1 hour and 35 minutes these students improved their adding ability 64 per cent! And consider with this the fact that nearly every member of the class was a superintendent, principal or high school teacher, and hence had been adding "off and on" for, let us say, at least fifteen years.

How can we account for such results? In the first place it is evident that the members of the class took the addition problems more seriously, centered more active attention upon them—and especially upon their skill in them—than they had shown in their previous "off and on" addings. It is a cardinal principle of learning that a few minutes' intensive, concentrated application is worth hours of desultory work. It is the active, "go get 'em" attitude that counts. This has been demonstrated over and over again for all kinds of learning. The pedagogical application of this is to get the pupil interested by all means, to get his impulses aroused, to get him motivated.

Recall further in this connection two circumstances. Every individual knew his own score from day to day and was hence his own pace maker. The school room application of the principle of learning involved is obvious. Whenever possible let the pupil know exactly what he has accomplished and is accomplishing as promptly as possible. This will usually lead him

to compete with himself. In the second place, note that the class worked as a single group, with class scores shown from day to day. This brings out the oft-demonstrated principle that in most forms of work individuals do better in the social environment provided by others and especially when the group striving and group attainments are kept constantly before his attention. Although Dewey's "School and Society" appeared in the nineties, the organization of school work into coöperative group activity still lags.

One or two of the more mechanical principles of learning are brought out by this experiment. The class did not spend the total time of 1 hour and 35 minutes in the work all at one sitting but distributed it. Had half of the class done so, their results, we may be sure, would have been sad to look upon. Even barring the effects of fatigue, an hour and thirty-five minutes' continuous work would have not shown improvement anywhere near that seen in the table above. In more general terms from the psychology of learning: effort distributed over a series of separate trials is much more economical and effective than the same total amount put into a single or a very few trials. This is the basis, conscious or unconscious, for the cutting up of the study of algebra, for instance, into a series of short lessons to be spaced with definite time intervals filled in part with study of other subjects.

Finally, as a general point, does not the general method used in the experiment described recommend itself as applicable with modifications to many forms of school learning? If any study pursued by the class simultaneously and in which degree of proficiency is clearly and frequently measurable, the showing of scores, especially in the graphic form of a rising and falling curve, is to be recommended as a legitimate and effective interest-rouser.

THE ADMINISTRATION OF CO-OPERATIVE PART-TIME INDUSTRIAL TRAINING

By MAUDE F. ROGERS
Durham, N. C., High School

BEFORE STUDYING coöperative part-time industrial training, let us consider the field of part-time education—the need for such education, the functions of part-time schools, and the types of part-time schools as found in the United States.

This is the day of the rise of part-time schools in the United States. Such schools date back more than fifteen years, but the most agitation for them has taken place in the last ten years. Today about twenty states of our Union have enacted laws which require part-time schools. These states have realized the vital need of such schools as instruments for saving the adolescent youths who are out of school. Over one-half of the youths between fourteen and sixteen years of age are not in school and not more than one-fourth of those between sixteen and eighteen are in school. These boys and girls are not only in school, but for the most part, they are working in employments that do not lead anywhere. The majority of these adolescents are the drifters, those who are "hired and fired." They are recognized as the neglected asset of our nation, but now they are coming into rights long denied them. It can well be said that part-time school laws are bills of rights for these children and that the part-time school is fulfilling a need long felt in our national life.

Functions of Part-Time Schools

The functions of the part-time school may be summarized as follows: (1) training for citizenship, (2) a review of child's previous education, (3) the enrichment of his knowledge content, (4) the development of his powers, (5) the establishment of an employment bureau, (6) the introduction of prevocational activity, (7) vocational guidance and follow-up work, and (8) the linking up of school work with the child's job.

Part-time schools may be divided according to the administrative basis into two groups, occasional and regular. Incidentally, let me say that the Federal Board for Vocational Education makes three divisions which we shall not consider since these classes are included in either the occasional or regular type.

Under occasional type, we find seasonal employment and incidental employment. In seasonal employment we find those pupils, especially members of the graduating class, who have good jobs offered them shortly before the close of the school and those pupils who are needed in agricultural pursuits. In incidental employment, we find unrelated employment, related optional employment, and related required employment.

In regular type part-time education, we find three divisions: (1) alternating attendance and employment,

(2) four-fifths of time in school, as in salesmanship courses, and (3) continuation attendance where students who are at work must attend school a certain number of hours per week. The coöperative plan may be classed under (1) in regular type of part-time schools thus we shall not consider further the other types.

Definition and History

The coöperative plan, by which the students spend half their time in school and half at work in industrial establishment, was first developed by Dean Herman Schneider in the College of Engineering of the University of Cincinnati. The plan provides that the students in a class shall be divided into two groups, one of which is in school and the other at work in industrial plants. At the end of each period of one or two weeks as the administrator may decide, the groups exchange places and thus alternate between school attendance and practical productive work. The students are grouped in pairs, two boys holding down one all-time job.

Many colleges and universities have followed Dean Schneider's lead and today the plan is being operated in many of our more progressive states. Dr. Braune, a former colleague of Dr. Schneider, introduced the plan in the Engineering Department of the University of North Carolina this past year and the students are highly enthusiastic over the scheme.

The coöperative plan has been adapted to high schools in a number of cities, the first of which were Fitchburg, Mass., York, Pa., and Spartanburg, S. C., Cincinnati, Pittsburg, New York, and Boston, have finely developed coöperative classes. The state of California is making wonderful strides in this type of work. As yet, the only coöperative part-time Industrial Training Class affiliated with an accredited high school in North Carolina is located at Durham.

Essential Features

The essential features of the plan may be summed up thus: (1) There must be a definite coöperative arrangement between the school and industrial plants, by which the theoretical instruction is given by the school and the practical experience is given by the industries. Both the school and the industries are coordinated in a systematic and progressive educational program. (2) The industrial plants must be willing to make such adjustments in equipment, processes and methods as are necessary for the promotion of the educational aim. (3) The schools must be willing to eliminate non-essentials in the course of study. (4) The employers, instructors, and student workers must be carefully selected. All of these must be inspired with a vision of the responsibilities of the plan. (5) The devices of alternating periods must be administered in such a way as to secure a continuous and progressive action on the part of both the school and the industry.

Number (4) is very important for unless a careful selection is made as to employers and student workers, the whole plan may fail. Schools introducing this plan, must be very careful to send out good student workers or the employers will get the idea that the school is using the industries as "dumping grounds" for its waste material.

Now that we know some of the essential features of the plan let us consider some of its special advantages.

Special Advantages

In the first place, the coöperative plan entices into school boys and girls who because of economical necessity or indifference have left school to go to work or to loaf. In the next place, a strong appeal is made to many boys and girls who are in the high school at a great sacrifice and who can remain in school if a way is provided by which they can meet part of their expenses. Then, too, some lessons, as the meaning and value of money, the meaning of work and wages and the relation between them, can be learned only through practical experience in the ways of the world and the coöperative plan certainly teaches these lessons in the truest sense of the word. The pupil in the coöperative class secures a good position which promises future advancement; he receives training for the work which he is doing, and for which he has shown special aptitude; he is under the care and supervision of public educational authorities; his interest in and appreciation of education becomes much keener, he does not change jobs so often; and he learns the value of studying his occupation from every angle. If a boy can earn a few hundred dollars while pursuing a high school course which gives him a good, general secondary education and a first class trade at the end of the course, he can see that it is worth while to stay in school. Then it will be seen that coöperative part-time industrial training offers many advantages over full-time work, and even over full-time education, for some young people.

Administrative Problems Involved

There are many general administrative problems connected with the coöperative scheme. The administrator, who may be the superintendent, or assistant superintendent, principal of the high school, or director of coöperative work, must have a thorough acquaintance

with the industrial situation of his community. He must study his retarded pupils, striving to learn their aptitudes and interests because many "misfits" have "found themselves" in the coöperative classes. He must study his elimination lists and the apparent causes of elimination.

With a knowledge of the industrial situation in hand and a number of jobs available under sympathetic employers in view, he must advertise his scheme, if he wishes the public to approve and take advantage of the opportunity. He should visit the employers he has selected as men fit to supervise adolescents and establish cordial relations with them for they can give him most powerful assistance and coöperation. Next, he should tell the news to the parents, either by talks to them in parent-teacher association, or by visits to the homes of prospective pupils. He should give talks to the student-body and try to arouse their interest and enthusiasm. And last, but not least, the aid of the local newspapers should be solicited and a series of articles should be printed giving as much publicity to the scheme as possible.

The high school building is the place for the instruction to be given. Some cities have made the mistake of placing these classes in separate buildings; for instance, the coöperative classes will be placed in the same building with incorrigibles or other types of special students. This should not be done for the boys and girls in the coöperative classes (there should be separate classes for the boys and girls) should know and feel from the very beginning that they are a part of the regular school and that their course is just as important as any other course offered. These students need to make use of the regular high school equipment and they should participate in as many school activities as possible. By all means, they should attend assembly periods where they should be encouraged to join in the singing, yells, etc.

Incidentally, I may say here that it has been my experience that the assembly period is one thoroughly enjoyed by "my boys" who have gradually taken more and more part in the exercises held there. They have a keen personal pride in their appearance as a group, in their marching, in their behavior, and in their support of all student activities. As a group, they contributed between one hundred and twenty-five ($125.00) and one hundred and fifty ($150.00) dollars to the athletic association last year. During the war savings campaign, our little group of fifteen led all the other classes in the system by buying more than six hundred ($600.00) worth of stamps.

The next administrative problem to be considered is the selection of teachers. These teachers should be keen, thoughtful, sympathetic, thoroughly equipped from an academic standpoint, interested in industrial and economic problems, patient, and not easily discouraged. They need a keen sense of humor, but above all else, they need to be thoroughly in sympathy with and keenly aware of all the possibilities of the work. For such teachers, high salaries must be offered.

In laying out the course of study for coöperative students the administrator should keep in mind the fact that not only is he training students for trades, but he is also training for citizenship. As a basis of selection of the subjects to be taught, standard tests should be given and results from these considered more valuable than classification according to former scholastic training although previous standing in school must be considered. Another basis of selection is individual needs of the pupils. As many electives as possible should be offered so that the pupils may elect subjects which will help them in their vocations. Four (4) years of English, four (4) of industrial mathematics, one (1) of elementary science, one (1) of civics and two (2) of other social sciences, and four (4) of physical training should be required of all students who expect to finish the course. "All non-essential material should be eliminated from the subjects of instruction," so say most of the articles on this subject, but to this I raise an objection unless the term "non-essential" is very elastic. I believe with all my heart and soul that these pupils need a taste of cultural training—an acquaintance with good literature, good music, and the fine arts especially—in order that they may know how to use their leisure time and not measure everything by the dollar mark.

Attendance and discipline are also administrative problems worthy of note. The coöperative course is very often tried out by the "ne'er-do-wells" and these will play truant from school and from work also. The principal, coördinator, employer, parent, and teachers should coöperate in requiring good attendance and also in matters of discipline. Student government has solved most of my problems along both these lines.

There is one other general administrative problem which must, by no means, be overlooked and that is getting a written consent from the parents to the effect that they are thoroughly willing for their sons to enroll in the coöperative course. These consents should be filed in the principal's office for future reference.

Two Special Problems

In addition to these general administrative problems there are two special problems or factors that enter into the plan: vocational guidance and the work of the coördinator. The first year coöperative class

should remain in school full-time and not work in shops at all. During this time a regular course in vocational guidance should be given either by the coördinator, principal, or teacher, in order to assist the pupils in choosing and preparing for trades. All the characteristics and problems of the jobs available in the community should be studied; the personal qualities demanded, the preparation required, the wages earned, the working hours per day, the health of the workers, the opportunities for advancement, and any other items of peculiar interest. The students in this class should visit the various local industries and see conditions first-hand. Lectures on trade and industries should be given to them and their parents also in order to train the parents to act as helpful advisers.

By the close of the first year, each pupil enrolled in the coöperative class should have made his decision. The work of the coördinator really begins when the students begin alternating between school and shop because his duty is to fit together the student's efforts in and out of school. Sometimes the shop teacher acts as coördinator and sometimes the principal assumes this responsibility. The coördinator has to require reports from employers as to the number of hours the pupils worked, the quality of work done, the general attitude toward work, pay received, and also as to traits of character exhibited. If a boy proves a "misfit" in his position, it is the duty of the coördinator as a guide in vocational lines, to find a job for which the pupil has an aptitude. The success of a coördinator rests largely upon his tactful dealings with employers and his sympathetic understanding of boyhood.

Examples of Coöperative Part-Time Industrial Training: Fitchburg

There are three examples of Coöperative Part-Time Industrial Courses that I wish to bring to your attention: the Fitchburg plan, the Boston plan, and the Durham plan. I have chosen these because I know the first two rather well owing to the fact that I have read articles concerning them and have also visited the schools in which these courses are carried out. Naturally, as adviser and director of the coöperative class in Durham, I am acquainted with this plan in all its phases. Mr. Hunter of Fitchburg and Mr. Clark of Boston explained their work to me in detail in 1918 and not long since Mr. Hunter wrote me of a few recent changes he had made in his plan. The Durham plan is a combination of features to be found in both the Fitchburg and Boston plans. Durham has the two-weeks-in and two-weeks-out scheme rather than the one-week-in and one-week-out as is found in both Boston and Fitchburg, Mass.

Chronologically, Fitchburg should be considered first since the plan became a reality there in 1908 while it was not introduced in Boston until 1913. In Fitchburg, the boys in the coöperative courses are given the chance to work alternate weeks in learning the following trades: machinist, patternmaking, sawmaking, drafting, iron moulding, tinsmithing, piping, printing, textile, and office work. Mr. Hunter owns a machine shop which he operate downtown for the benefit of his pupils. The course is four (4) years in length, the same as the regular high school course. The first two (2) years are spent in school full-time while the last two alternate weekly between shop and school. A trial period of two (2) months beginning at the end of the first school year, is given each candidate to see if he is adapted to the particular trade he elects and his parents sign an agreement whereby the apprentice agrees to complete the full course, and the manufacturer, on his part, agrees to teach him the rudiments of the trade as designated in this agreement. Four (4) different courses may be elected by coöperative students; one (1) for machinist, draftman, pattern-maker, and iron molder, one (1) for cotton manufacturer, one (1) for printer, and one (1) for office work leading to salesmanship. There is a sameness about these courses in that all require four (4) years of English, four (4) years of Mathematics, three (3) years of Physics, two (2) years of Chemistry, (1) year of Civics, American History, Industrial History, Commercial Geography, First Aid to the Injured, and Economics. The differentiation is evident in the industrial training or shop work given in school. The cooperative plan is very popular in Fitchburg. When I was there in 1918, there were between one hundred and fifty (150) and two hundred (200) pupils doing this type of work so that the regular high school teachers were being used to teach them.

It is rather interesting to follow up the graduates of the first class which completed this course. Of this class four attended the coöperative courses of the University of Cincinnati and ninety (90) per cent are working at the trades they learned while taking this course.

The Boston Plan

In Boston, the best developed coöperative course is found in Hyde Park High School. Mr. Clark, the coordinator, and the teachers helping him have great faith in the good of the course. A boy is offered the chance of learning blacksmithing, cabinet making, carpentry, drafting, moulding, printing, pattern making, sheet metal work, sign painting, plumbing and gas fit-

(Continued on Page 52)

MUSIC AS A SOCIALIZING INFLUENCE

By W. P. TWADDELL
Director of Music, Durham, N. C., High School

"I am the soul of the joy of life—the companion of its sorrows.

"All moods are mine. I am hilarious. I am frivolous. I am gay. I am serious. I am sad. I spin out the silver thread of happiness, the golden thread of comfort and solace. On wings of melody I bear the dreamer off to strange lands and strange places. To the wanderer I sing of home. In the despondent I renew resolve. To the despairing I bring hope. In the child I engender pure tastes, refinement, and inspire noble thoughts and high ambitions.

"I am ever ready. I never tire. I am a wellspring of inspiration, relaxation, recreation. I am at home in the dwelling of the richest or most lowly in the land—where religion reigns or under roofs that know not God.

"I am Music."

ALMOST EVERY ONE will acquiesce in this appreciation. The appeal of music is well nigh universal. A glance over the history of mankind reveals the use of music from the earliest times as a unifying, an integrating force. The influence of music on the collective social emotion of large groups has been known to the social, political, and religious leaders of peoples since the dawn of history.

Though music took its inception in the dim mists of antiquity, only recently has it reached a development comparable to its sister arts: literature, painting, and sculpture. This tardiness of development has been due to the intangibility of its sense material has been imponderability of its psychic elements.

Of all humankind, the possessors of artistic temperaments are the most eager to share with their fellows their experiences, dreams, and ideals. This striving for expression has been present in large measure among men gifted with tonal imagination.

What almost insuperable difficulties were overcome in the development of the art of music we, who now enjoy it, can scarcely envisage. In the case of painting or sculpture, the artist formulates impressions received from without, through the sense of sight, but the musician must express man's inner feelings and sensibilities. Sounds, uttered with genuine feeling, are exciting to any creautre. The first attempts at the production of music were probably the result of conscious imitation of the sounds formerly uttered involuntarily in moments of emotional stress.

In the earlier stages of the art, where the standard of intelligence was low, the performers strove to express clearly in song and dance their feelings and the circumstances which had aroused them. Realism in the crudest form was dominant. As civilization advanced, the tendency was toward formalism. Beauty of design and content became the aim. To quote from Parry's *The Evolution of the Art of Music* (Chapter 1, page 14), "Taking the most comprehensive view of the story of musical evolution, it may be said that in the earliest stages, while the actual resources were being developed and the principles of design were being organized, the art passed more and more away from the direct expression of human feeling. But after a very important crisis in modern art, when abstract beauty was especially emphasized and cultivated to the highest degree of perfection, the balance swung over in the direction of expression again; and in recent times music has aimed at characteristic illustration of things which are interesting and attractive on other binomial theorem. Because this is true, care must be

"The late W. S. B. Matthews distinguished three appeals which music makes: The first to the ear, as 'purified, crystallized sound,' a sensuous beauty which every musician demands always; the second an appeal to the mind, depending upon memory, attention, perception of the relation of part to part, as balanced and beautiful tonal discourse; the third the appeal to the soul, as expressing mood, state of feeling, emotion."

Let us notice the fact that music lends itself, impartially, to good and evil associations; that it is capable of being put to debasing as well as elevating uses. Music, *per se*, is no more moral or immoral than the binomial theorem. Because this is true, care must be taken in the course of music provided in the public schools to establish wholesome and uplifting associations with music.

In the elementary schools, from the very first day, the pupil should hear only beautiful tone. He should be taught the correct use of his vocal organ. He should daily hear examples of the world's finest music. Whether sung, studied, or heard, however, each composition should be suitable, in character and mood, to the pupil's age and stage of mental and physical development.

This pupil should come to the high school thoroughly familiar with musical notation. There is reason to hope that soon most children at the age of ten or twelve years will be able to read tonal symbols as readily as the printed type.

Musical instructors of high school students should keep in mind two great values. For the individual, the development of the æsthetic sense, and the resulting

(*Continued on Page 52*)

THE HIGH SCHOOL JOURNAL

Published Eight Times a Year—October to May—by the University of North Carolina Press for the School of Education of The University of North Carolina

BOARD OF EDITORS

N. W. WALKER.....Editor
MISS LOUISE COFFEY.....Business Manager
M. C. S. NOBLE M. R. TRABUE
EDGAR W. KNIGHT

Subscription Price, $1.50; in Clubs of Five, $1.20 Each; Single Copies 25c Each. Advertising Rates Furnished upon Application

EDITORIAL COMMENT

The North Carolina Council of English Teachers will meet in Greensboro, March 9-10.

The North Carolina College Conference will hold its next meeting in Greensboro, March 23-24.

The first sectional meeting of the North Carolina Education Association will be held at Durham, March 9-10, under the auspices of the Teachers' Association of the City of Durham. An excellent program has been prepared, and a profitable meeting is promised. The first session will be held on Friday evening, March 9 at 8 o'clock in the auditorium of the high school building.

The April issue of the JOURNAL will be a special number devoted to High School Libraries. It will carry articles dealing with practically every phase of library work to be found in the secondary school.

Are too many students going to college? The answer of one group of college presidents is "yes." Another group says "no." This question will be discussed in our March number.

Forty North Carolina schools are coöperating with the School of Education of the University in the investigation of the abilities and the scholastic attainments of seventh grade pupils and high school seniors. If you are interested in knowing the results of this investigation, watch for the May number of the JOURNAL.

The Stone Publishing Company of Charlotte, N. C., has recently republished John Charles McNeill's two volumes of poems, *Songs Merry and Sad* and *Lyrics From Cotton Land*, and Isaac Erwin Avery's *Idle Comments*. Mr. Stone has done the state a service in making available these three of its favorite literary productions of local authors. Certainly every high school in North Carolina should place these books in its library.

MUSIC CONTEST FOR HIGH SCHOOL PUPILS

THE North Carolina College for Women has issued a folder announcing the fourth annual music contest for the high school pupils of North Carolina, to be held at Greensboro, April 19th and 20th. This contest has for its aim the encouragement of musical activity in the high schools of the state and the elevation of musical tastes and standards.

Any North Carolina high school is eligible to enter this contest. All entries should be in by April 1st. A trophy will be awarded to the school winning the highest number of points, and also awards will be made to the winners in the various events of the contest.

Those interested may secure full information by writing to Dr. Wade R. Brown, Director of Music, North Carolina College for Women, Greensboro, N. C.

POOR SPELLING DUE TO DEFECTIVE VISION*

Parents and Teachers Should Give More Attention to Eyes of Children

POOR spelling, even among the well-educated, is due largely to poor eyesight in early life. To spell correctly is truthfully to recall shapes and sizes which were photographed upon the brain through the eyes. When the material is wanted for use, the brain must give the information it contains. If the eyes have not photographed a perfect likeness of the word or words, your knowledge is incorrect.

If, when you were a child at school, the word "decadence" looked like "decad*a*nce," the image on your brain showed an *a* instead of an *e*. Thus, all through your life when you wanted to spell that word, the *a* is recalled from your storehouse of pictures, your brain, and you are confused as to the proper spelling.

To overcome poor spelling, proper care of the eyes should be one of the first thoughts of parents and teachers. Every school boy and school girl should receive a thorough eyesight test and any defect of vision corrected. By such methods, poor spelling can be greatly reduced among children. It is too late to make good spellers out of adults.

The correction of defective vision and relief of eye strain will promote a more efficient race of men and women because poor eyesight, to a great extent, is responsible for many thousands of inefficient Americans.

---

* From the Eye Sight Conservation Council of America, Inc. Times Building, New York City.

THE ENGLISH COLUMN

English Council Programme

THE NORTH Carolina Council of English Teachers meets in Greensboro, under the auspices of the North Carolina College for Women, March 9 and 10. The first session will be called at 8:15, Friday evening, March ninth.

The committee in charge is able to announce the following program:

FRIDAY EVENING
(8:15 o'clock)

The Council and the Coming Year.—C. A. Hibbard.
Measuring Achievement in English Teaching.—Dr. Trabue.

SATURDAY MORNING
(9:00 o'clock)

Roll call—To be answered by teachers registered with a brief explanation of some "device" found useful in their English teaching.

What's Wrong with College Requirements?
Miss Spruill—Raleigh High School.
Miss Clegg—Greensboro High School
Miss Saunders—Biltmore High School.

What's Wrong with the High School Preparation?
R. W. Adams—University of North Carolina.
Dr. Julia Harris—Meredith College.

Round Table Discussion:

1. My Experience with English "Tests"—Miss Peele, Goldsboro High.
2. The High School "Annual" Problem—Miss Stratton, Asheville High.
3. The Parallel Reading List Question—Mrs. Peace, Laurinburg High.
4. The Composition Hand Book in High School Classes—Miss Killingsworth, Greensboro High.
5. Supervised Study in High School English—Miss Herr, Durham High.
6. How Are We to Get Equipment?—Miss Craig, Roanoke Rapids High.

Other subjects will be brought up for discussion, but the names of leaders for these topics cannot yet be announced.

SATURDAY AFTERNOON
(2:00 o'clock)

Report of the Committee on Conditions Governing the Teaching of English in North Carolina. A. C. Howell, Chairman.

Report of the National Council Meeting at Chattanooga. Miss Eleanor Stratton, Asheville.

Report of Council Library Committee. Miss Tillett, Raleigh.

While the afternoon session may look rather heavy because of its consideration of reports of committees, it should be understood that the work of the council for the past year is wrapped up in the study Mr. Howell's committee will represent. Mr. Howell has been busy for weeks collating replies received from some three hundred questionnaires sent out to English teachers in state high schools. The suggestion and findings which that committee will offer bid fair to be the most important contribution the council has so far made to the improvement of the work of English teachers. It ought, too, to start fifty separate and lively debates. —C. A. H.

The Social and Business Importance of Good English

We thank Mr. A. C. Howell for the following contribution:

You ask for the opinion of men who should know in regard to the social and business importance placed upon good English. May I quote from an essay by Mr. John Lyle Harrington of Kansas, who is one of the foremost engineers in the United States today. He says:

"The character of the technical man's language is important in his social and business intercourse and in his business and professional correspondence. . . . A technical man is, presumably, an educated man; and if he do not speak like one, suspicion is cast upon the entire range of his learning. When a man cannot spell correctly, or use ordinarily good grammar (and there are many university men who cannot) it is difficult to convince others that he is professionally able. . . . Language has large weight in classifying a man, infinitely more than manner or dress. It exhibits his breeding and indicates his social status. I do not mean that it shows whether he belongs to the so-called 'Smart Set,' but whether he is of the educated, cultured class, whether you would send him to your less or more select club, or whether you may extend the extreme courtesy of inviting him to your home. This may appear at first glance to be of small consequence; but great things often result from associations quickly formed. In fact, such social relations make largely for success or failure in the business or professional world. Many have received the opportunity which led to eminence through the recommendation of a casual acquaintance who was favorably impressed."

Professors Hotchkiss and Kilduff of New York University, authors of a standard work on business English, have this to say with regard to the value of English in business life:

"Any man in business who lacks the ability to write a good letter is sadly handicapped; for letters in these days of long-range business are the chief means of carrying on transactions with those whom we cannot meet personally. This class includes nine-tenths of the customers of any business that aspires to more than a local influence. Even a great national bank comes in contact with its customers ten times more often by letters than by face to face conversation."

Dawn

The hills again reach skyward with a smile,
Again, with waking life along its way,
The landscape marches westward mile on mile
And time throbs white into another day.

Though eager life must wait on livelihood,
And all our hopes be tethered to the mart,
Lacking the eagle's wild, high freedom, would
That ours might be this day the eagle's heart!

—JOHN CHARLES MCNEILL.

THE MATHEMATICS COLUMN

Conducted By Dr. JOHN W. LASLEY
The University of North Carolina

The advancement and perfection of mathematics are intimately connected with the prosperity of the State.—*Napoleon I.*

THE FOLLOWING completes the list of the teachers of mathematics in the high schools of the state. If your name has not appeared, please advise the Column, and the omission will be corrected. The Column desires very much that no teacher of mathematics be omitted. Here is the remainder of the list as we have been able to secure it:

Miss LaRue McLawhorn, Aulander.
Miss Ethel Simpson, Biltmore.
C. M. Barrier, Newton, R. F. D. No. 5.
Miss Susie Williams, Morganton.
Mrs. E. E. McDowell, Cherryville.
Miss Bertha Hocutt, Burgaw.
Miss Laura E. Davis, Jamestown.
Miss Elizabeth Storver, Monroe.
Miss Gladys Smith, Monroe.
Miss Louise Wilkinson, Greenville.
Miss Estelle Green, Greenville.
Miss Myrtle Clowney, Dallas.
Miss Grace Sykes, Wadesboro.
Miss Nina Horner Cooper, New Bern.
Miss E. Shuler, New Bern.
J. T. Hardy, New Bern.
Miss Holton, New Bern.
Miss Lila McGehee, Charlotte.
Miss Fannie Moore, Charlotte.
Miss Lucy Plunkett, Charlotte.
Miss Virginia Reid, Charlotte.
L. B. Nichols, Andrews.
Miss Alma Lassiter, Rich Square.
A. P. Magwood, B. R. S., Hendersonville.
J. R. Sandifer, B. R. S., Hendersonville.
W. E. Wilson, B. R. S., Hendersonville.
Miss Ella Bradley, Gastonia.
R. T. Raynor, Ahoskie.
Miss Mariam Boyd, Warrenton.

The following articles appeared in the November issue of the *Mathematics Teacher*: "Non-Euclidean Geometry" by W. H. Bussey, "The Study of Mathematics Under the Individual System" by Mary R. Reese, "Problems Concerning the Teaching of Secondary Mathematics" by Alfred Davis, "The Future Development of Mathematical Education" by C. N. Moore, and "The Function Concept in High School Mathematics" by J. M. Kinney. The following topics appeared in the "Discussion" column: "An Historic Problem in Plane Geometry," "Geometry Speaks" and "Notes on the Teaching of Arithmetic."

The city of Chicago has a mathematics club. It meets at the Central Y. M. C. A., 19 South La Salle Street. Their meeting in October took the form of a dinner followed by election of officers and discussions.

The Mathematics Section of the New York State Teachers' Association met in Syracuse, the last of November.

The following conclude for the time the list of books the Column is suggesting for those teachers of mathematics and those high school libraries so situated that a list of mathematical books may not be readily accessible:

Manning. The Fourth Dimension Simply Explained. Munn.
Row. Geometric Paper Folding. Open Court.
Skinner. The Mathematical Theory of Investment. Ginn.
Chrystal. Algebra. 2 vols. Macmillan.
Dedekind. Essays on Number. Open Court.
Carson. Essays on Mathematical Education. Ginn.
Lagrange. Essays on Elementary Mathematics. Open Court.
McLellan and Dewey. Psychology of Number. Appleton.
Nunn. The Teaching of Algebra. Longmans.
Smith. The Teaching of Arithmetic. Ginn.
Woody. Measurements of Some Achievements in Arithmetic. Teachers College.
Woody. Tests in Arithmetic. Teachers College.
Young. Teaching of Mathematics. Longmans.
Merriman and Woodward. Higher Mathematics. Wiley.
Young. Lectures on the Fundamental Concepts of Algebra and Geometry. Macmillan.
Young. Mathematical Monographs.
Marsh. Technical Algebra. Wiley.
Marsh. Technical Trigonometry. Wiley.
Marsh. Technical Geometry. Wiley.
Dickson. Elementary Theory of Equations. Wiley.
De Morgan. A Budget of Paradoxes. Open Court.

The following Bulletins are issued by the Bureau of Education, Washington, D. C., and can be had from them free of charge upon application:

1911. No. 6. Graduate Work in Mathematics in the Universities of the United States.

1911. No. 7. Undergraduate Work in Mathematics in the Colleges of Liberal Arts and Universities.

1911. No. 12. Training of Teachers of Elementary and Secondary Mathematics.

1911. No. 13. Mathematics in the Elementary Schools of the United States.

1912. No. 13. Influences Tending to Improve the Work of the Teachers of Mathematics.

1912. No. 14. Report of the American Commissioners of the International Commission on the Teaching of Mathematics.

1914. No. 45. Curricula in Mathematics.

1915. No. 35. The Training of Elementary School Teachers in Mathematics in the Countries Represented in the International Commission on the Teaching of Mathematics.

Here are some more problems:

Problem 6. A fisherman told a yarn about a fish he had caught. If the fish were half as long as he said it was, it would be 10 inches more than twice as long as it is. If it were 4 inches longer than it is, and he had further exaggerated its length by adding 4 inches, it would be one-fifth as long as he now said it was. How long is the fish, and how long did he say it was? [This problem was taken from Rivenburg's Review of Algebra. It was given on a M. I. T. exam. For those who prefer it may be made to read "number of miles made on a gallon of gas."—Ed.]

Problem 7. Solve the following for x and y,

$$x^2 + y = 7$$
$$x + y^2 = 11$$

Problem 8. Prove that the number of rail joints passed over in twenty seconds equals the number of miles per hour of travel.

Problem 9. A cow is tied with an hundred foot rope to a corner of a forty foot square barn. Over how much area can she graze?

Problem 10. If the bisectors of two angles of a triangle are of equal length, the triangle is isosceles.

THE SPANISH COLUMN

Conducted By Dr. S. E. LEAVITT
The University of North Carolina

AT THE MEETING of the Modern Language Association of America, held at the University of Pennsylvania during the Christmas holidays, none were more enthusiastic than the teachers of Spanish. There were about forty of these in attendance, mostly from Eastern institutions.

There were two meetings of the Spanish section. Interesting papers were read by Professors Kenniston, of Cornell, and Tarr, of Princeton. The former read lists given by Spanish poets of the sixteenth century in which are mentioned many names of their Italian and Spanish contemporaries. These lists are interesting in showing the intimate relationship that existed between the Spanish and Italian poets of the Golden Age. It was pointed out that the study of these relationships opens up a vast field to the literary historian and critic. Professor Tarr's paper on "Some Characteristic Uses of the Noun Clause in Modern Spanish" led to an interesting discussion on problems of Spanish syntax. I understand this paper is shortly to appear in the *Modern Language Journal*.

Professor Marden, of Princeton, called attention to the lamentable lack in college libraries of Spanish periodical literature of popular or semi-scientific character. There are scores of such publications, both in Spain and in Spanish America, which should be available in our larger university libraries to the increasing number of students and others who desire to get in more direct contact with Hispanic currents of thought. At Professor Marden's suggestion, a subcommittee was appointed to ascertain the needs of certain representative institutions with a view to securing their coöperation in supplementing the more technical periodicals with popular or semi-popular monthlies and newspapers. This is a move in the right direction.

Of the forty teachers of Spanish in attendance at Philadelphia, eight were Spaniards and two Spanish Americans. It is important, in this connection, to note the growing number of Spaniards and Spanish Americans who are entering the faculties of some of the best colleges and universities in all sections of the country. This fact, coupled with the constantly increasing number of American teachers and students who are going abroad to perfect their knowledge of Spanish, is proving highly beneficial not only in gradually meeting the demand for well prepared teachers, but also in helping to create the needed Spanish atmosphere and the much more needed sympathetic understanding in which our future teachers of Spanish are to be trained.

The spirit of the Spanish meetings at Philadelphia was one of encouragement and of greater confidence than ever in the outlook for Spanish. From informal conversations, I gathered that the tendency now in all important institutions is to consolidate the gains already made through improvement in teaching and in the scope and character of the courses offered. According to a recent estimate, 300,000* students throughout the country are now taking Spanish. And this more than four years after the Armistice, and in the face of reported increases in French, German and Latin. Those who until now have been nursing the feeling that the popularity of Spanish was a product of war psychosis, should revise their opinions. It is gradually dawning upon the mental horizon of the more enlightened educators that the commercial value of Spanish has been grotesquely overemphasized and that there is a great Hispanic culture staring us in the face and demanding the fullest recognition. Only on this basis may America lay the foundation for a true and lasting Pan-American understanding. It cannot be emphasized too strongly: the Spanish language as

* See article by Professor Wilkins, in the December *Educational Review*.

well as the great civilization of which it is an expression stand on their own merit; they need no apology.

MANUEL L. LOPEZ.

Trini y College, Durham, N. C.

The committee on Spanish journals mentioned in the above article is composed of Professors R. H. Keniston (Cornell), F. B. Luquiens (Yale) and C. C. Marden. (Princeton). All material and correspondence should be addressed to Professor Keniston.

In addition to the report of the Committee on a Two Year Course in Spanish, the program of the meeting of the Spanish section in April will include a paper by Prof. Fred K. Fleagle of Davidson, "Testing for Progress in Spanish," and another by Prof. J. H. Gorrell, the subject to be announced later. Professor Turiel of the North Carolina College for Women has also been asked to contribute. Further details will be published later in this column.

Attention of Spanish teachers is called to the article by Mr. Pickens, "Why Study Latin?" published in the January number of the JOURNAL. It is highly important that they coöperate with teachers of Latin in furthering study of the classics.

The following books will prove of interest to teachers of Spanish:

Fitzmaurice-Kelly, *Historia de la literatura española*. The best manual of its kind, this should be in the library of every Spanish teacher. The Spanish edition is considered superior to either the English or the French.

Goldberg, *Studies in Spanish American Literature*. In this volume the author sympathetically studies the *modernista* movement, Rubén Darío, José Enrique Rodó, José Santos Chocano, José María Eguren and Rufina Blanco Fombona.

Blasco Ibáñez, *Los enemigos de la mujer*. One of the war novels of this popular author. It was written at Monte Carlo and the action centers around the famous "casino."

These books will be loaned by the University for a period of two weeks. Address this column.

MUSIC AS A SOCIALIZING INFLUENCE

(Continued from Page 47)

finer subjective life; and for the group, the value of music as a socializing force.

How quickly a group is integrated in ensemble singing or playing! One careless or indifferent performer can mar the whole rendition of a song or composition. What an important factor music is in our social intercourse: in the family circle, in the church life, in the club, in the lodge! An evening gathering of any sort is dull, almost dead, without music.

The study of music of other lands and times also is of social value. It adds to our store of knowledge an appreciation and understanding of life and feelings other than our own. It should add, too, a wider appreciation of the worth of the peoples and times contributing this music to the store of artistic achievements which we have inherited.

There is a growing tendency toward shorter working days for the laboring classes and a consequent lengthened time of leisure. These hours of leisure may be a blessing or a curse to the individual. May not music, if the schools have done their work well, prove of tremendous value in redeeming these hours?

The vocational aspect of music is very interesting. As far back as 1916, we spent in America over 600 millions annually on music. Undoubtedly the annual expenditure has greatly increased since then. An army of individuals is engaged in musical work as a profession. The number of persons of high school age doing vocational work in music is probably comparable to the number engaged in many other occupations, for which adequate preparation is given in the schools. Yet, until recently music has had but scant recognition even in our institutions of higher learning, and no doubt, in many instances, rare talent has lain undiscovered, and therefore undeveloped.

He who accepts and agrees with what has gone before must also accept and agree with this conclusion as to the social value of music and the logical importtance of music in a school system advancing any pretensions to an adequate proparation for the complex socially organized life of today. Music possesses the unique power of universal expression and reception. It is indispensable that every child who passes through any part of the school system be prepared, as far as time and facilities for instruction permit, to derive the most intelligent and wholesome pleasure from music; and if he has been endowed with any talent, he should be prepared, in some measure, to give like pleasure by the exercise of his creative or interpretative gifts, to others.

THE ADMINISTRATION OF CO-OPERATIVE PART-TIME INDUSTRIAL TRAINING

(Continued from page 46)

ting; or he can study to be an electrician or machinist. Only one course is offered and no attempt to give specific training in any particular industry is attempted. Shop work is required of all; not so much science is

offered; physical training and chorus singing are required of all; four (4) years of English and four (4) of Mathematics, two (2) of Physics, one (1) of Elementary Science, one (1) of Chemistry, one (1) of Civics, one (1) of Industrial History, and one (1) of Industrial Geography are required of all students. The boys stay in school full-time the first year and work alternate weeks for three years. Then their diplomas are withheld one year after they leave school until they have completed the term of apprenticeship of seven thousand five hundred and sixty (7560) hours.

The Durham Plan

In Durham, the coöperative course came into existence in 1917 to meet the needs of a number of repeaters in high school, to help the boys who needed financial aid, and to assist boys who wished to learn a a trade while coming to school. Very little attempt has been made to train pupils in school for any specific trade, although wood working, drafting, and machine shop work is offered in regular school shop. Most of the school subjects other than shop are taught by one teacher because as yet the number is small enough to be handled in this way. For the past two years, the science has been taught by the regular science teacher of the high school. This past year five (5) coöperative boys studied Plane Geometry under the head of the Mathematics Department. A few boys have been put into regular history and English classes, but this plan has not been very successful. Our apprenticeships have been in machine and electrical shops. However, we have had quite a few part-time boys in school half of each school day working at a variety of trades. Our boys go out to work in shops the first year of high school, but I think we shall change this plan as they need a full-time year to "find themselves." In connection with the work we have recently established a Junior Employment Service which we expect to be of much help. Our shop teacher acts as coördinator.

As for the course of study, English, physical training, and mathematics are required of all boys for full four years; shop work and several social sciences are elective; Civics, American History, Elementary Science, and Commercial Geography are required. Training in character building and citizenship is stressed more than actual text-book material. The instruction is largely of individual nature.

We had four moys to graduate in 1921, two of whom had chosen electrical work as their specialty. One (1) of these boys is still working at the Traction Company where his salary has steadily increased. His partner is taking a course in Electrical Engineering. The other two (2) had served their apprenticeships in machine shops. One of these came back to the Durham High School for a post-graduate course last year. At present he is employed in the city engineering department of Durham. His partner also came back for an extra year at high school and is planning to study mechanical engineering the coming year. Our only graduate of 1922 is planning to enter the University of Cincinnati in the fall to study electrical engineering.

In conclusion, let me say that coöperative part-time industrial training presents many administrative difficulties and at times is very discouraging because the administrators and teachers realize that they are making so many mistakes. However, even though the plan is still in an experimental stage, we cannot fail to realize that it is a good plan and as such has a great future.

Bibliography

Dutton and Snedden: Administration of Pub. Ed. in U. S. pp. 415-424.

Bureau of Education: Bulletin 1918 No. 19—Vocational Guidance in Sec. Ed. Industrial Art a National Asset. Bulletin 1921 No. 5—Part-time Ed. in U. S. Industrial Ed. circular No. 2 February 1919.

Cubberley: Pub Sc. Administration p. 311.

Finney and Schafer: Administration of Village and Consolidated Schools, p. 65—Vocational Guidance.

J. C. Clarke: Coöperative Ed. in Hyde Park School, 1 L Man. Tr. 19; 81-5 Nov. 1917.

E. J. London: Advantages of Coöperative Education—So. Atlantic Quarterly 19: 249-57 July, 1920.

Frank M. Leavitt: Launching Part-time Coöp. Ed. on a Large Scale—Man. Train Apr. 1919. pp 267-271.

Francis L. Bain: Coöperative Industrial Education in Boston—Man. Tr. May 1917 pp. 365-370. Man. Tr. Jan. 1921, p. 229. Ind. Arts. Apr. 1921—pp. 130-134. Ind. Arts. June 1921—p. 204.

Monroe: Cyclopedia of Education—Industrial Education.

Herman Schneider: Are you doing what you want to do? American Magazine pp. 54, 55, 86, 88, 92, 95.

D. J. MacDonald: Part-time classes in Industrial Ed. Educ. Review 62: 1-9 June, 1921. Ind. Arts. Oct. 1921, p. 379. Ind. Arts. Sept. 1921, p. 323-328.

THE EYES OF A CHILD*

I AM brown, or blue, or black, or gray. I have faith in everyone and everything. I trust the world, I still possess the crystal clearness of innocence. I see nothing sordid or unlovely. The pictures I send to the baby brain are magical. I am not for sale—I cannot be bought—I am priceless!

I am sensitive. I require care and thought, but I grow weak with overwork or ill-health or strain. I

* From the Eye Sight Conservation Council of America, Inc. Times Building, New York City.

resent indifference or neglect. When I am not as strong as I should be, I protest against over-exertion in the schoolroom, I rebel against long hours of study or reading at home where the lights are so dim that I cannot see.

I sound my warnings daily. I cause misery to the brain and a throbbing head. My punishment is relentless. I worry myself into aching, twitching, burning coals of fire. I cannot work—I cannot sleep—I can only weep. The parents of the baby body in which I dwell blame fretfulness, illness, apathy, dullness and stumbling gait, but, I am the cause. I fairly sing and dance and thrill with light and joy and gladness when I am healthy and strong and rested. If I need aid from the skilled men who know me, who study me, who give me what I must have, then I respond in sheer gratitude.

If I have behaved badly and have caused pain it is only because I have needed help. With the assistance these learned men can give me, I live until I am no longer wanted. I never return once I go. I go reluctantly if go I must. I speak that all parents may hear.

Remember, I am the eyes of a chidl!

I may be the eyes of your child!

Conserve the eyesight of your child. It is a duty you owe the child, yourself, the community, the state and the nation. But above all you owe it to your child.

BOOK NOTES AND REVIEWS

SUPERVISED STUDY IN MATHEMATICS AND SCIENCE. By S. Clayton Sumner, Supervising Principal, Palmyra, New York. The Macmillan Co., 1922. 241 pp. Edited by Alfred L. Hall-Quest.

A. CONTENTS:

I. Preface by the Author.
II. Introduction by the Editor.
III. Supervised Study in Mathematics.
  (1) Section One—Algebra.
  (2) Section Two—Plan Geometry.
  (3) Section Three—Advanced Mathematics.
IV. Supervised Study in Science.
  (1) Section Four—Biology.
  (2) Section Five—Physics.

B. COMMENT:

Mr. Sumner undertakes in this book to make the reader see the value of supervised study, in which he is a firm believer. His aim is to write a book which will be of explicit and direct value to the teacher who is trying to teach children how to study and how to learn. A number of type lessons in Algebra, Plane Geometry, Advanced Mathematics, Biology and Physics are given.

In the reviewer's opinion, this book contains some very practical suggestive lessons for teachers who are not familiar with supervised study. His type lessons are interesting, and there is such a variety that one can get suggestions for almost any kind of supervision in Mathematics and Science which he attempts. (This is especially true of Algebra.) His technique is very good for the most part. Especially commendable is the fact that he throws a great deal of responsibility on the pupil, thus developing his self-reliance.

DIRECTING STUDY—EDUCATING FOR MASTERY THROUGH CREATIVE THINKING. By Harry Lloyd Miller. Charles Scribner's Sons. New York. pp. 372—Chapters I-IX.

A. CONTENTS:

1. Preface by the Author.
2. Chapter Headings.

Chapters I—A Manual for Suggestive Procedure.
II—Administration of Directing Study.
III—The Learning Process.
IV—Organizing Principles and Differentials.
V—The Development of the Work Spirit.
VI—Application of the Social Principle.
VII—Initiative and Authority.
VIII—Success and Failures in School Work.
IX—A Shift of Emphas.

3. Suggestive Helps and Problems for Teachers in Using this Book.
4. Definition and Use of Terms.
5. Index.

B. COMMENT:

In the preface, Mr. Miller states the purposes of this book: to direct study toward mastery through creative thinking.

The purpose of the author is well carried out in illustrative materials, in plans of organization of classroom work so that a sense of power is gained by the pupils, in showing ways of dealing with individuals of varying achievements in the same group so that the individual becomes the educative unit, in shifting emphasis from assigned lessons and recitations to directed classroom activity, and in proposing to all teachers that they give boys and girls things to do, in the doing of which they find out what we would have them know.

Mr. Miller is Associate Professor of Education at the University of Wisconsin, and Principal of the Wisconsin High School which is the laboratory school for the University. The Suggestive Helps and Problems given in the book would be of value to any teacher, especially a teacher in the high school.

—MAE CULPEPPER.

THE SCIENCE OF COMMON THINGS. By Samuel F. Tower, Headmaster of South Boston High School, and Joseph R. Lunt, Teacher of General Science, English High School, Boston. D. C. Heath Co., 1922. pp. 398.

This is a text-book of general science, representing the fruits of over ten years of specialization in the teaching of general science in high and junior high schools. The work of the book is designed to deal primarily with the pupil's immediate environment—things common to his every-day experience. The author has employed the project-problem method throughout the book. Each problem is developed in its relation to other problems of like nature, in order to make clear the scientific problems involved. The Science of Common Things should prove to be a practicable, teachable text-book for use in the second year in the high school.—R. A. D., Jr.

Asheville Normal and Associated Schools

SUMMER SCHOOL

Sixth Session—June 18-July 27, 1923.

The summer school of the Asheville Normal is one of the State summer schools of North Carolina.

Thirteen hundred twenty-four teachers from twenty-one States attended the 1922 summer session.

The faculty of seventy will include teachers from the Asheville Normal, heads of departments from Teachers College, Columbia University, and the Universities of South Carolina, Cincinnati, Tulane, and John B. Stetson, and State Normal Colleges of Michigan, Florida, Georgia, Virginia and Trinity College and Park College, and heads of departments from a number of the leading city public schools.

One hundred sixty courses are offered for kindergarten, primary, grammar grade, and high school teachers, supervisors, principals and superintendents.

The Asheville Summer School offers to teachers educational and recreational opportunities that are unsurpassed.

Dormitory room and board is $42 for six weeks. Rooms may be reserved now by forwarding $5 of this amount. Board in private homes is from $8 to $15 per week. Registration fee is $10 for three courses. $8 extra for a fourth course.

Reduced round-trip fares to Asheville are available during the summer.

Complete catalog will be ready March first. Write now for a copy.

JOHN E. CALFEE, A.M. LL.D., President
Asheville, N. C.

University of Virginia Summer Quarter

First Term—June 18-July 28
Second Term—July 30-September 1

Courses for Elementary Teachers
Courses for High School Teachers
Courses for College Credit

The Summer Quarter is an integral part of the University Year, the courses being the same in character and credit value as in the other quarters of the year.

Degrees are conferred upon men and women for summer work.

The Master's Degree may be obtained by properly qualified students in three Summer Quarters.

It offers opportunities unexcelled in the South and makes a strong appeal to teachers seeking broader scholarship and training, and wider social contacts, and to college students desiring to complete degree requirements.

Attendance last Quarter 2977 from thirty-nine states and foreign countries.

The most beautiful and unique campus in America.

Accommodations at reasonble rates. Tuition for non-Virginia students $20.00 per term.

Entertainments, Music Festival, excursions.

For illustrated folder and full announcement write to

CHAS. G. MAPHIS, Dean, University, Virginia

NORTH CAROLINA COLLEGE FOR WOMEN

announces a double summer session for 1922. First term begins June 13; second, July 25. Entire cost for each term, $42.00.

Three new dormitories make possible accommodations for 350 more students than were enrolled last summer.

Every teacher, supervisor or superintendent of North Carolina will find properly accredited courses adapted to special needs.

For reservation in dormitory, five dollars of cost is to be paid in advance. For further information or application blanks, write

John H. Cook, Director
Greensboro, N. C.

North Carolina

STATE COLLEGE OF AGRICULTURE & ENGINEERING

Summer Session—June 12 to July 25

Teachers Courses (1) for those holding Elementary and Higher State Certificates and (2) for graduates of Standard High Schools. *Courses* for College Credit. Catalogue upon application.

Apply for Reservation at Once

W. A. WITHERS, Director, RALEIGH, N. C.

Sargent's Handbook of

AMERICAN PRIVATE SCHOOLS

An Annual Survey and Review describing PRIVATE SCHOOLS of all classifications and SUMMER CAMPS for Boys and Girls. *A Compendium* for Educators. *A Guide Book* for Parents, supplying intimate information, which makes possible a discriminating choice. *Comparative Tables* give the Relative Cost, Size, Age, Special Features, etc. *Introductory Chapters* review interesting Developments of the Year in education. *Education Service Bureau* will be glad to advise and write you intimately about any School or Camp in which you are interested. Write full particulars. *Consultation by Appointment.* 7th edition, 896 pp. $4 postpaid. Circulars and Sample Pages on Request.

PORTER E. SARGENT, 14 Beacon St., Boston, Mass.

PUBLIC SALES

We have purchased 122,000 pairs U. S. Army Munson last shoes, sizes 5½ to 12 which was the entire surplus stock of one of the largest U. S. Government shoe contractors.

This shoe is guaranteed one hundred per cent solid leather color—dark tan, bellows tongue, dirt and waterproof. The actual value of this shoe is $6.00. Owing to this tremendous "buy" we can offer same to the public at $2.95.

Send correct size. Pay postman on delivery or send money order. If shoes are not as represented we will cheerfully refund your money promptly upon request.

NATIONAL BAY STATE SHOE COMPANY

296 Broadway, New York, N. Y.

Loose-Leaf Outline in Mathematics

Algebra **Geometry**

College entrance examinations in mathematics will not be dreaded by students who have used LOOSE-LEAF OUTLINES IN MATHEMATICS, by Robert R. Goff, Director of Mathematics, New Britain, Conn. Now is the time to start the review work. The use of these Outlines will insure that all essential points are emphasized and thoroughly understood.

Part I of the Algebra Outline meets the College Board's new minor requirements, and with the Outline on Observational Geometry covers one year's work. Part II covers a half year's work, and with Part I meets the College Board's new major requirements.

Loose-leaf Algebra Outline Part I	.30
Loose-leaf Algebra Outline Part II	.30
Lose-leaf Geometry Outline	.30
Note-book covers to fit the Outlines	.30

DRILL BOOK IN PLANE GEOMETRY

(Revised 1922)

By Robert Remington Goff

The special aim of this book is to increase emphasis on analysis, classification, and determination of method in geometry. The pupil is to be taught not the proof but how to find the proof. What is to be done? Then, what are the common methods of doing it? The methods suggested by this book have been thoroughly tested and proved satisfactory. Every up-to-date mathematics teacher should examine this book.

Mailed postpaid on recept of the price $1.00

THE PALMER COMPANY, EDUCATIONAL PUBLISHERS **120 Boylston St., Boston, Mass.**

ANNOUNCEMENT

Holiday Tour.—December 23rd-January 1st, inclusive. 10 days. $200.
Sight-seeing in Havana, Cuba, Key West, Palm Beach, Miami, St. Augustine, Jacksonville and Atlanta.

Tour No. 1.—Our Great Western Educational Tour. June 14-August 13. $350.
Chicago, Denver, Colorado Springs, Manitou, Pike's Peak, Salt Lake City, Ogden, San Francisco; including the cost of the summer school of the University of California, at Berkeley; also an opportunity to attend the convention of the N. E. A., July 1-6, at Oakland.
Returning August 5th, via Merced, Los Angeles, Riverside, Williams, Ariz., El Paso, Juarez, Old Mexico, San Antonio, New Orleans.
A solid train, made up of sleepers from Washington, D. C., Richmond, Va., Norfolk, Va., Goldsboro, N. C., Greensboro, N. C., Charleston, S. C., and Atlanta, Ga.
You can visit Yellowstone Park, Yosemite Park and Grand Canyon, the three great wonders of America.

Tour No 2.—From San Francisco to Honolulu, Hawaii. July 7th. Total Expenses $350.
Twenty-one days. 4,400 miles on the Pacific.

Tour No. 3.—August 20 to September 3. 15 days. $200.
New York, Boston via Steamer, Portland, Montreal, steamer up St. Lawrence to Toronto, Niagra Falls, Philadelphia, Atlantic City and Washington, D. C. Persons may attend Columbia University Summer School, on their tickets and join the party in New York City August 21.
Send $10.00 early for reservation in any one of the above tours.
Write for illustrated booklet.

EDGERTON TOURING COMPANY,
GREENSBORO, N. C.

DO NOT PATRONIZE A HOME INDUSTRY

Unless it gives you service as good as that to be used anywhere. We are distributing the same list of moving picture films that **Twenty-Five State Universities** throughout the country are distributing through their extension divisions. What more can be said for their suitability for school and community use?

Try an order for JULIUS CAESAR or QUO VADIS

We have just arranged with the Bray Productions to distribute their celebrated class-room films on General Science covering such subjects as *Air and Water, Energy, The Earth, Life, The Universe.* The following films of this course will be available till the middle of January:

Reel 1—Why We Breathe and How
Reel 2—The Human Voice
Reel 3—(How You See)
(How We Hear)
Reel 4—Stung by Amos Quito
Reel 5—The Scale of Mother Love
Reel 6—Some Monsters of the Farm

CAROLINA FILM CORPORATION
RALEIGH, NORTH CAROLINA

THE LOHR-LATSHAW LATIN FORM TEST FOR HIGH SCHOOLS

Scientific in Construction—Practical in Application

The Best Latin Form Test Now Available

It measures the Pupil's Progress and Achievement more accurately than any other Latin Form Test.

It represents more nearly than any other Latin Test what the Secondary Schools are actually doing in the teaching of Latin Forms.

Complete Booklet of 47 pages will be sent postpaid on receipt of 75 cents.

ADDRESS

THE SCHOOL OF EDUCATION
THE UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N. C.

Some Schools

Buy laboratory furniture from the standpoint of *first cost* only. Other schools consider design, construction, and cost per year of service. The latter class send their orders to us.

During the year of 1922, our furniture for science laboratories, home economics laboratories, or libraries has been purchased by the following North Carolina High Schools:

WINSTON-SALEM
CHARLOTTE
WILSON
MONROE
MORGANTON
STATESVILLE
HAMLET
LEXINGTON
ROCKINGHAM
RALEIGH

We will be glad to furnish to rural schools our blueprints of an economical layout for them.

Leonard Peterson & Company
1222-34 Fullerton Avenue, Chicago, Ill.

Carolina Branch Office: 1558 East Seventh Street, Charlotte, N. C.

The University of North Carolina Summer School

Thirth-Sixth Session June 18 - - September 7, 1923

First Term—June 18-July 28

Second Term—July 27-September 7

Courses counting for credit toward the A.B. and A.M. degrees will be offered in the following departments: English, History, Mathematics, Latin, French, German, Spanish, Physics, Chemistry, Geology, Geography, General Economics, Rural Economics, Sociology, Psychology, and Education.

In the Department of Education courses will be offered in the following branches: Educational Psychology, School Administration, Supervision, General High School Methods, History of Education, Rural Education, Principles of Secondary Education, Tests and Measurements, Special High School Methods in English, History, Mathematics, Latin, French, German, Geography, and General Science.

High Class Recreational Features and Entertainments of an educational character. Lectures by noted Thinkers and Writers. Music Festival and Dramatic Performances.

A strong faculty has been secured composed of specialists in their respective departments and successful teachers and superintendents chosen because of their recognized ability in their respective fields.

Moderate Expenses—Rooms may be reserved at any time.

Preliminary Announcement ready for distribution now. Complete Announcement ready April 1st.

For further information, address,

N. W. WALKER, Director, Chapel Hill, N. C.

You are always needing copies of

Addison's Sir Roger de Coverly.
Arnold's Sohrab and Rustum and Other Poems.
Burke's Speech on Conciliation with America.
Irving's Sketch Book.
Macaulay's Life of Johnson.
Scott's Ivanhoe.
Shakespeare's Julius Caesar.
Shakespeare's Macbeth.
Shakespeare's Merchant of Venice.
Thackeray's Henry Esmond.

These and many other standard works are always available in

THE MACMILLAN POCKET CLASSICS SERIES

at the uniform price of 48 cents
Send for the descriptive catalogue

The Macmillan Company

New York Chicago Boston Atlanta Dallas San Francisco

Two Things A School Room Must Have

Fresh Air

The Austral affords a perfect system of ventilation without draft

Good Light

The Austral gives absolute control of light without interference with free circulation of air

For full particulars write the

Austral Window Company

101 Park Avenue
New York City

309 Flatiron Building
Atlanta, Georgia

AUSTRAL FIXTURES FOR SELF-BALANCING REVERSIBLE WINDOWS